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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/523,609	11/10/2005	Raphael Yoeli	1148-13	1497

23117 7590 12/28/2007
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EXAMINER

SANDERSON, JOSEPH W

ART UNIT	PAPER NUMBER
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3644

MAIL DATE	DELIVERY MODE
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12/28/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/523,609	Applicant(s) YOELI, RAPHAEL	
	Examiner Joseph W. Sanderson	Art Unit 3644	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 October 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 6-13 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 6-13 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Objections

1. Claims 6 and 13 are objected to because of the following informalities:

Lines 8 and 2, respectively, "said payload bay" should be --said at least one payload bay--.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 6-8 and 13 are rejected under 35 U.S.C. 102(b) as being anticipated by Bucher (US 6 254 032).

Regarding independent claim 6:

Bucher discloses a VTOL vehicle comprising:

a fuselage (Fig 3, 1 and 2) having a longitudinal axis (fore to aft along longitudinal median spokes) and a transverse axis (side to side along transverse median spokes);

at least one lift-producing propeller (Fig 3, 106 and 107 aft and 101 and 112 fore) carried by said fuselage on each side of said transverse axis;

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a pilot's compartment (Fig 2, the driver's seat, in front of 29 as depicted, provides an open compartment) formed in said fuselage between said lift-producing propellers laterally offset to one side of the longitudinal axis (as seen in Fig 3);

at least one payload bay (Fig 3, area with rear seats and other cockpit seat) formed in said fuselage between said lift-producing propellers and accessible from an opposite side of said longitudinal axis (as depicted, entrance 11 is on to port whereas the driver's seat is to starboard), but wherein said payload bay extends within said fuselage to said one side of said longitudinal axis; and

at least two engines (Fig 3, 14), each capable of driving said lift-producing propellers.

Regarding claims 7 and 8:

The discussion above regarding claim 6 is relied upon.

Bucher discloses the payload bay including a support (the stairway or ramp that defines 11; as depicted, 11 is a stairway, with each transverse line indicating a step), specifically a cover (it covers the entrance aperture), extendable between open and closed positions (to allow passengers on/off) and wherein in said open position, provides support for at least a portion of the payload, externally of the fuselage (passengers walk on it to enter/exit the vehicle).

Regarding claim 13:

The discussion above regarding claim 6 is relied upon.

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Bucher discloses the compartment as a pilot's compartment (the driver's seat area) and said payload bay a passenger compartment (all other persons onboard are considered passengers).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bucher ('032).

The discussion above regarding claim 6 is relied upon.

Bucher discloses an aircraft having a cover for said payload bay (stairway 11), but does not disclose the cover as hinges on said one side of the longitudinal axis.

The examiner takes Official Notice that airstairs, stairs often built into a hinged door, are well known in the art as a means for providing a door for the aircraft in addition to a means for entering and exiting without external devices.

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to have modified Bucher to use airstairs as the examiner takes Official Notice that these are extremely well known hinging aircraft closure devices that also allow entering and exiting of an aircraft without external devices.

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Further, in the absence of any stated problems solved by or any stated advantage obtained by having a certain feature as claimed in the instant invention, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified Bucher to hinge the airstairs on the said one side as the positioning of the door in the aircraft is merely a design choice made by a user, and since it has been held that rearranging parts of an invention involves only routine skill in the art. *In re Japikse*, 86 USPQ 70.

6. Claims 6, 12 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hulbert (US 2 955 780) in view of Piasecki (US 3 184 183).

Regarding independent claim 6:

Hulbert discloses a VTOL vehicle comprising:

a fuselage (Fig 1, 10) having a longitudinal axis (fore to aft) and a transverse axis (side to side);

at least one lift-producing propeller (Fig 3, 23 and 23') carried by said fuselage on each side of said transverse axis;

a pilot's compartment (Fig 1, 16 on the port side, with controls) formed in said fuselage between said lift-producing propellers laterally offset to one side of the longitudinal axis (as seen in Fig 1); and

at least one payload bay (Fig 1, 16 in center and starboard) formed in said fuselage between said lift-producing propellers and accessible from an opposite side of said longitudinal

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axis, but wherein said payload bay extends within said fuselage to said one side of said longitudinal axis (center 16 extends across longitudinal axis).

Hulbert discloses an engine (Figs 3 and 5, 27) capable of driving the propellers, but does not disclose at least two engines.

Piasecki teaches a VTOL vehicle comprising "one or more engines" (col 2, lines 43-46), specifically two engines (Fig 2, 21 and 21a), each capable of driving said lift-producing propellers.

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to have modified Hulbert to use at least two engines as taught by Piasecki as providing multiple engines is an art-recognized alternative means for driving rotors, and to further provide a back-up in the event one fails.

Regarding claim 12:

The discussion above regarding claim 6 is relied upon.

Hulbert as modified renders a plurality of vanes extending across an inlet side of each propeller substantially parallel to the longitudinal axis (there are two stator vanes 22 parallel with the longitudinal axis per fan, and the stators are located above the rotors as noted in Fig 5).

Regarding claim 13:

The discussion above regarding claim 6 is relied upon.

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Hulbert as modified renders the compartment a pilot's compartment (as noted by the control stick in Fig 1) and the at least one payload bay as a passenger compartment (a passenger may sit at least in the starboard compartment 16).

7. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Piasecki (US 3 184 183) in view of Hulbert (US 2 955 780).

Regarding independent claim 6:

Piasecki discloses a VTOL vehicle comprising:

a fuselage (Fig 1, 11) having a longitudinal axis (fore to aft) and a transverse axis (side to side);

at least one lift-producing propeller (Fig 1, 15 and 16) carried by said fuselage on each side of said transverse axis;

a pilot's compartment (2, 12a with controls as variously shown within the figures) formed in said fuselage between said lift-producing propellers laterally offset to one side of the longitudinal axis (as seen in Fig 2); and

at least one payload bay (Fig 2, other 12a) formed in said fuselage between said lift-producing propellers and accessible from an opposite side of said longitudinal axis; and

at least two engines (Fig 2, 21 and 21a), each capable of driving said lift-producing propellers.

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Piasecki does not disclose the at least one payload bay extending within said fuselage to said one side of said longitudinal axis, although appears to disclose a similar second payload bay in Figs 2 and 8 to the center bay disclosed in Hulbert.

Hulbert discloses at least one payload bay (center and starboard 16) extending from one side and across the longitudinal axis.

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to have modified Piasecki to use the extended payload bays as taught by Hulbert for the well known and predictable result of increasing the amount of storage space the vehicle has to transport payloads.

8. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Piasecki (US 3 184 183) in view of Hulbert (US 2 955 780) as applied to claim 6 above, and further in view of Illingworth (US 6 520 449).

The discussion above regarding claim 6 is relied upon.

Piasecki as modified renders a VTOL vehicle comprising a skirt made of rigid panels (as seen in various forms in Figs 9-11), but does not disclose a flexible skirt.

Illingworth teaches as prior art a VTOL vehicle comprising a flexible skirt (as seen in Figs 3 and 4) to more successfully seal the static pressure region and improve the efficiency of the system (col 15, lines 8-10).

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to have further modified Piasecki to use a flexible skirt as taught by

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Illingworth for the well known advantage of improving the efficiency of the system at least when close to the ground, i.e. during take-offs and landings.

9. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hulbert ('780) in view of Piasecki ('183), or vice versa.

Hulbert or Piasecki as modified by the other render ducted fan vehicles having passenger compartments, but do not disclose the compartments including at least one outward facing seat.

It would have been an obvious matter of design choice to use outward-facing seats, since applicant has not disclosed that this configuration solves any stated problem or is for any particular purpose (as evidenced by Figs 14b-e) and it appears that the invention would perform equally as well with the seats of the noted art.

Further, it is well documented that side facing seats are alternatives to forward or rear facing seats. For example, helicopter gunners during the Vietnam War faced outward to adequately fire from the vehicle, and some subway systems, such as the New York subway, use side facing seats to provide more room to carry more passengers.

Response to Arguments

10. Applicant's arguments filed 16 October 2007 have been fully considered but they are not persuasive.

In response to applicant's argument that Piasecki does not disclose a pair of engines capable of driving all lift fans, although Piasecki describes a "common power plant," Piasecki

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defines this "common power plant" as "one or more engines" (col 2, lines 43-46) and specifically depicts two in the drawings, each capable of driving all lift fans as they are both connected to the same drive shaft as depicted in Fig 4.

In response to applicant's argument that Hulbert does not disclose a payload bay that extends from one side of the longitudinal axis to the other, amended claim 1 recites "at least one payload bay" which must accomplish this arrangement, which is met by the center bay extending across the center.

Further, it is noted that the features upon which applicant relies (i.e., the payload bay permitting the arrangements disclosed in the specification) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

In response to applicant's argument that the direction the passenger seat faces is not merely a design choice, it should be appreciated that a stated reason for including a specific limitation is not necessarily a criticality. Although the applicant desires the stated arrangement for specific purposes, these are not considered criticalities in light of the alternative arrangements provided for by the disclosure.

In response to applicant's argument that the examiner should consider proper references in the filed IDS statements, the examiner had included with the last action all filed IDS statements marked as to which prior art documents had been considered (as noted by initials).

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11. Applicant's further arguments with respect to claims 6-13 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

12. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joseph W. Sanderson whose telephone number is 571-272-0474. The examiner can normally be reached on M-F 7:30 am - 3:00 pm.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Teri Luu can be reached on 571-272-7045. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Joseph W. Sanderson

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